

Intermediate Switch Module (ISM-11) with 4-20 mA Analog Output Quick Start Guide

Description

Bettis's Valve Position to Current Source, part no. 84064-1, senses valve position through the use of a 1,000 Ohm potentiometer mounted in an actuator. The potentiometer develops a 4-20mA signal that is transmitted for display on a remote indicator. The Position to Current module is suitable for use with "master-slave" computer controlled systems.

A Standard current range of 4-20mA allows for direct interface with most process control systems. Other current ranges can be achieved through replacement of a single resistor on the circuit module.

Valve Position to Current modules are often found in process control that utilize the Bettis Futronic modulating control system. The 4-20mA is a constant current signal that represents actual valve position. The analog data generated by the circuit module can be used by a variety of process control instruments.

Features

- Remote Indication of valve position.
- Full solid-state circuitry
- Current Range: 4-20 mA
- Plug-in modular design
- Up to 750 Ohm field loop resistance

P/N 84064-1 Adjustments

ZERO

Adjusts the 1 volt feedback of the **closed** valve and at the same time sets the 4 milliamp output signal.

SPAN

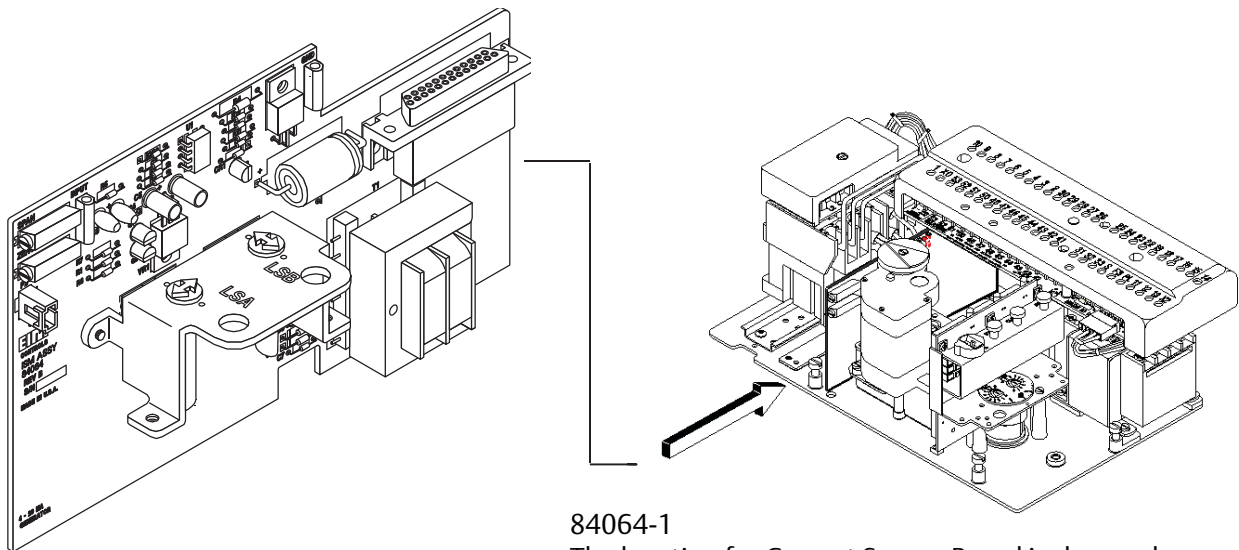
Adjusts the 5 volt feedback of the **opened** valve and at the same time sets the 20 milliamp output signal.

Calibration

Calibration begins after field wiring between valve and remote monitoring equipment is complete.

Set Limit Switches and Pot.

1. With power off, remove field wiring and measure resistance of monitoring circuit.
2. Calculate the voltage range to drive the required current signal, using Ohm's Law ($E = IR$).
Example: (Process signal =4-20 mA)
 $R = 450 \text{ ohm}$
 $I = 4 \text{ mA at Close \& 20 mA at Open}$
 $E_c = 0.004 \times 450 = 1.8 \text{ Volts}$
 $E_o = 0.020 \times 450 = 9.0 \text{ Volts}$
3. Turn power ON and Close the valve. Now measure the output voltage. Voltage should be the calculated voltage E_c (1.8 Volts in the example above). If voltage is not E_c , then adjust Zero trim pot to E_c voltage.
4. Open the Valve. Now measure the output voltage. Voltage should be the calculated voltage E_o (9.0 Volts in the example above). If voltage is not E_o , then adjust Span trip pot to reach E_o . Repeat Steps 3 and 4 until no further adjustments are required.



84064-1

The location for Current Source Board is shown above

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